Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1.-20. (Canceled)

21. (New) A ceramics honeycomb structure formed of a plurality of cells forming a fluid flow passage partitioned by porous partition walls, and comprising an inflow end part allowing fluid to flow therein, an outflow end part allowing fluid to flow therefrom, and an outer peripheral part including an outer peripheral surface, characterized by having a structure where a porosity per unit volume (cm^3) gradually increases from the inflow end part side to the outflow end part side at a rate of 0.2%/mm or less.

22. (New) A ceramics honeycomb structure according to claim 21 which has a structure where the porosity per unit volume (cm^3) gradually increases from the inflow end part side to the outflow end part side at a rate of 0.1%/mm or less.

23. (New) A ceramics honeycomb structure formed of a plurality of cells forming a fluid flow passage partitioned by porous partition walls, and comprising an inflow end part allowing fluid to flow therein, an outflow end part allowing fluid to flow therefrom and an outer peripheral part including an outer peripheral surface, characterized by having a structure where a porosity per unit volume (cm^3) gradually decreases from the central part of a section perpendicular to the flow passage direction of the cells to the outer peripheral part at a rate of 0.2%/mm or less.

24. (New) A ceramics honeycomb structure according to claim 23 which has a structure where the porosity per unit volume (cm^3) gradually decreases from the central part

of a section perpendicular to the flow passage of the cells to the outer peripheral part at a rate of 0.1%/mm or less.

25. (New) A ceramics honeycomb structure according to claim 21, wherein a porosity per unit volume (cm^3) in the area of up to 150 mm from the flow passage end face of the inflow end part side in the inward direction of the flow passage is 10-50%.

26. (New) A ceramics honeycomb structure according to claim 22, wherein a porosity per unit volume (cm^3) in the area of up to 150 mm from the flow passage end face of the inflow end part side in the inward direction of the flow passage is 10-50%.

27. (New) A ceramics honeycomb structure according to claim 23, wherein a porosity per unit volume (cm^3) in the area of up to 150 mm from the flow passage end face of the inflow end part side in the inward direction of the flow passage is 10-50%.

28. (New) A ceramics honeycomb structure according to claim 24, wherein a porosity per unit volume (cm^3) in the area of up to 150 mm from the flow passage end face of the inflow end part side in the inward direction of the flow passage is 10-50%.

29. (New) A ceramics honeycomb structure according to claim 21, wherein the minimum thickness of the partition walls is 0.030-0.076 mm.

30. (New) A ceramics honeycomb structure according to claim 23, wherein the minimum thickness of the partition walls is 0.030-0.076 mm.

31. (New) A ceramics honeycomb structure according to claim 21 which comprises at least one ceramics selected from the group consisting of cordierite, alumina, mullite, silicon nitride, aluminum titanate, zirconia and silicon carbide.

32. (New) A ceramics honeycomb structure according to claim 23 which comprises at least one ceramics selected from the group consisting of cordierite, alumina, mullite, silicon nitride, aluminum titanate, zirconia and silicon carbide.

33. (New) A ceramics honeycomb structure according to claim 21, wherein the section perpendicular to the flow passage has a shape of circle, ellipse, oval, trapezoid, triangle, tetragon, hexagon or left and right asymmetric irregular shape.

34. (New) A ceramics honeycomb structure according to claim 23, wherein the section perpendicular to the flow passage has a shape of circle, ellipse, oval, trapezoid, triangle, tetragon, hexagon or left and right asymmetric irregular shape.

35. (New) A ceramics honeycomb structure according to claim 21, wherein the section of the cells perpendicular to the flow passage has a shape of triangle, tetragon or hexagon.

36. (New) A ceramics honeycomb structure according to claim 23, wherein the section of the cells perpendicular to the flow passage has a shape of triangle, tetragon or hexagon.

37. (New) A ceramics honeycomb structure according to claim 21 which is used as automobile exhaust gas purification catalyst carriers.

38. (New) A ceramics honeycomb structure according to claim 23 which is used as automobile exhaust gas purification catalyst carriers.

39. (New) A ceramics honeycomb structure according to claim 21 which has a catalyst component supported on the partition walls and is incorporated into a catalyst converter by being held at the outer peripheral surface of the outer wall.

40. (New) A ceramics honeycomb structure according to claim 23 which has a catalyst component supported on the partition walls and is incorporated into a catalyst converter by being held at the outer peripheral surface of the outer wall.

41. (New) A method for producing a ceramics honeycomb structure formed of a plurality of cells forming a fluid flow passage partitioned by porous partition walls, and comprising an inflow end part allowing fluid to flow therein, an outflow end part allowing fluid to flow therefrom, and an outer peripheral part including an outer peripheral surface, wherein a porosity per unit volume (cm^3) gradually increases from the inflow end part side to

the outflow end part side at a rate of 0.2%/mm or less, which comprises drying a substrate having a honeycomb structure extruded by using a clay mainly composed of a ceramics material, coating and impregnating a resulting substrate a reinforcing agent mainly composed of a compound having in its structure at least one element selected from the group consisting of Si, Ti, Mg and Al, and thereafter firing thus treated honeycomb structure.

42. (New) A method for producing a ceramics honeycomb structure formed of a plurality of cells forming a fluid flow passage partitioned by porous partition walls, and comprising an inflow end part allowing fluid to flow therein, an outflow end part allowing fluid to flow therefrom and an outer peripheral part including an outer peripheral surface, wherein a porosity per unit volume (cm^3) gradually decreases from the central part of a section perpendicular to the flow passage direction of the cells to the outer peripheral part at a rate of 0.2%/mm or less, which comprises drying a substrate having a honeycomb structure extruded by using a clay mainly composed of a ceramics material, firing thus dried substrate, coating and impregnating a resulting fired substrate with a reinforcing agent mainly composed of a compound having in its structure at least one element selected from the group consisting of Si, Ti, Mg and Al, and thereafter firing thus treated substrate again.

43. (New) A method for producing a ceramics honeycomb structure according to claim 41, wherein said compound is one which produces an inorganic oxide when it burns.

44. (New) A method for producing a ceramics honeycomb structure according to claim 42, wherein said compound is one which produces an inorganic oxide when it burns.

45. (New) A method for producing a ceramics honeycomb structure according to claim 43, wherein said compound has a siloxane bond.

46. (New) A method for producing a ceramics honeycomb structure according to claim 44, wherein said compound has a siloxane bond.

47. (New) A method for producing a ceramics honeycomb structure according to claim 45, wherein said compound is a silicone oil, a silicone varnish, an alkoxy oligomer or a mixture thereof.

48. (New) A method for producing a ceramics honeycomb structure according to claim 46, wherein said compound is a silicone oil, a silicone varnish, an alkoxy oligomer or a mixture thereof.

49. (New) A method for producing a ceramics honeycomb structure claim 41, wherein the reinforcing agent has an absolute viscosity of 1-10000 mPa·s.

50. (New) A method for producing a ceramics honeycomb structure claim 42, wherein the reinforcing agent has an absolute viscosity of 1-10000 mPa·s.

51. (New) A method for producing a ceramics honeycomb structure according to claim 41, wherein the ceramics material is a raw material convertible into cordierite.

52. (New) A method for producing a ceramics honeycomb structure according to claim 42, wherein the ceramics material is a raw material convertible into cordierite.

53. (New) A method for producing a ceramics honeycomb structure according to claim 41, wherein the clay contains a water-soluble organic binder.

54. (New) A method for producing a ceramics honeycomb structure according to claim 42, wherein the clay contains a water-soluble organic binder.

55. (New) A method for producing a ceramics honeycomb structure according to claim 53, wherein the water-soluble organic binder comprises at least one water-soluble compound selected from the group consisting of hydroxypropylmethyl cellulose, methyl cellulose, hydroxyethyl cellulose, carboxymethyl cellulose, polyvinyl alcohol and polyvinyl acetal.

56. (New) A method for producing a ceramics honeycomb structure according to claim 54, wherein the water-soluble organic binder comprises at least one water-soluble

compound selected from the group consisting of hydroxypropylmethyl cellulose, methyl cellulose, hydroxyethyl cellulose, carboxymethyl cellulose, polyvinyl alcohol and polyvinyl acetal.